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PART II

ENVIRONMENTAL PROTECTION AGENCY

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INORGANIC CHEMICALS MANUFACTURING POINT SOURCE CATEGORY

Pretreatment Standards for Existing Sources; Interim Final Regulations

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER N—EFFLUENT GUIDELINES AND STANDARDS

[FRL 764-2]

PART 415—INORGANIC CHEMICALS MANUFACTURING POINT SOURCE CATEGORY

Pretreatment Standards for Existing Sources; Interim Final Rulemaking

AGENCY: Environmental Protection Agency.

ACTION: Interim final regulations.

SUMMARY: These regulations prescribe pretreatment standards for existing sources in nine subcategories of the inorganic chemicals manufacturing point source category. They govern the introduction of pollutants or pollutant properties into publicy owned treatment works (POTW) from plants that produce aluminum chloride, aluminum sulfate, potassium dichromate, copper sulfate, ferric chloride, lead monoxide, nickel sulfate, silver nitrate, and sodium fluoride.

EFFECTIVE DATE: July 20, 1977.

FOR FURTHER INFORMATION CONTACT:

Harold B. Coughlin, Effluent Guidelines Division, 401 M Street SW., Room 911 WSME (WH-552), Washington, D.C. 20460, 202-426-2560.

SUPPLEMENTARY INFORMATION: On March 11, 1974, the Environmental Protection Agency (EPA) promulgated a regulation adding Part 415 to Title 40 of the Code of Federal Regulations (39 FR 96412). That regulation with subsequent amendments established effluent limitations guidelines for existing sources, and standards of performance and pretreatment standards for new sources, in the inorganic chemicals manufacturing point source category. The regulations issued today amend 40 CFR Part 415 by adding pretreatment standards for existing sources to several of the subcategories within the Inorganic Chemicals Manufacturing Source Category. Specifically, pretreatment standards are established for the Aluminum Chloride Production Subcategory (Subpart A), the Aluminum Sulfate Production Subcategory (Subpart B), the Potassium Dichromate Production Subcategory (Subpart L), the Copper Sulfate Production Subcategory (Subpart AJ), the Ferric Chloride Production Subcategory (Subpart AL), the Lead Monoxide Production Subcategory (Subpart AR), the Nickel Sulfate Production Subcategory (Subpart AU), the Silver Nitrate Production Subcategory (Subpart BA), and the Sodium Fluoride Production Subcategory (Subpart BC). In addition, the applicability sections of these subparts have been amended to include the introduction of pollutants into treatment works which are publicly owned.

Legal Authority

These regulations are issued pursuant to section 307(b) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1317(b); 86 Stat. 816 et seq.; Pub. L. 92-500 (the Act)). It requires the establishment of pretreatment standards for pollutants introduced into publicly owned treatment works (POTW).

Summary of Pretreatment Standards for Existing Sources

These regulations establish two sets of pretreatment requirements for the subcategories mentioned. The first set, the "prohibited discharge" standards, are designed to prevent inhibition of, or interference with, the municipal treatment works, by prohibiting the discharge of pollutants of a nature or in a quantity that would endanger the mechanical or hydraulic integrity of the works. Except for minor changes, these prohibited discharge standards are identical to the prohibitions contained in the general pretreatment regulation now found at 40 CFR 128.131.

The second set of standards, known as "categorical" pretreatment standards, contain specific numerical limitations based on an evaluation of available technologies in a particular industrial subcategory. The specific numerical limitations are arrived at separately for each subcategory, and are imposed on pollutants which may interfere with, pass through, or otherwise be incompatible with publicly owned treatment works.

For the purpose of clarity, the subcategories affected by the present regulations are exempted from 40 CFR Part 128. The provisions of the present regulation overlap considerably with the language of 40 CFR Part 128. 40 CFR Part 128 was proposed on July 19, 1973 (38 FR 19236), and published in final form on November 1973 (38 FR 30982). It limits the discharge of pollutants which pass through or interfere with the operation of publicly owned treatment works, but it does not set numerical limitations or explicitly list particular pollutants to be regulated. The provisions of 40 CFR Part 128 have sometimes been a source of confusion in the past. New general pretreatment regulations have been proposed (42 FR 6476, February 2, 1977) which will revoke and replace 40 CFR Part 128 upon promulgation. Therefore, the general pretreatment requirements set forth in 40 CFR Part 128 are superseded with respect to the subcategories governed by the present regulations. All pretreatment requirements currently applicable to the subcategories listed are included in the regulations set forth below. When the new general pretreatment regulations are promulgated, these standards will be reviewed for consistency with the new general policies.

Technical Basis for Standards

A technical study was conducted to determine what pretreatment requirements should be established. Information which had already been gathered in establishing limitations for direct dischargers under sections 301 and 304 of the Act was found to be relevant in setting pretreatment standards. The findings of this study, and the rationale for establishing national pretreatment standards at this time for the particular subcategories which were selected, are summarized in Appendix A to this preamble. The full details of the study are set forth in a report entitled "Supplement for Pretreatment to the Development Documents for the Inorganic Chemicals Manufacturing Point Source Category."

Economic Impact and Inflationary Impact Analysis

No significant economic impact is expected for any of the categories included in this regulation. Depending on the number of plants discharging into POTW (the number is between 5 and 17 plants), total industry investment required to comply with the pretreatment standards would be between $98,200 and $793,500. Total annual cost is estimated to be between $72,710 and $934,288. For some categories, a small price increase may occur (less than 2 percent of 1975 selling price). Based on the economic analyses, no plant closures are expected The economic impact is discussed in greater detail in Appendix A to this preamble. The full details of the study are set forth in a report entitled "Economic Analysis of Pretreatment Standards for the Inorganic Chemical Industry."

Availability of Documents

The technical and economic reports mentioned above are available for inspection at the EPA Public Information Reference Unit, Room 2922 (EPA Library), Waterside Mall, 401 M St. SW., Washington, D.C. 20460, at all EPA Regional Offices and at State Water Pollution Control Offices.

Copies of both documents are being sent to persons or institutions affected by the regulation or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). A limited number of additional copies of both reports are available. Persons wishing to obtain a copy may write the Environmental Protection Agency, Effluent Guidelines Division, Washington, D.C. 20460, Attention: Distribution Officer, WH-552.

When this regulation is promulgated in final rather than interim form, revised copies of the technical documentation will be available from the Superintendant of Documents, Government Printing Office, Washington, D.C. 20402. Copies of the economic analysis document will be available through the National Technical Information Service, Springfield, Virginia 22151.

Public Participation

Prior to this publication the contractor's draft of the "Supplement for Pretreatment to the Development Documents for the Inorganic Chemicals Manufacturing Point Source Category"

was distributed to many agencies and groups. With this distribution, recipients were given an opportunity to comment and to attend a public meeting to explain their comments or make additional comments. As a result of comments received additional review and study of pretreatment requirements have been made and replies to the comments prepared. A summary of public participation in this rulemaking, public comments and the Agency's response and consideration of these is contained in Appendix B of this preamble.

Form and Effective Date

The Agency is subject to an order of the United States District Court for the District of Columbia entered in *Natural Resources Defense Council (NRDC) v. EPA*, 8 E.R.C. 2120 (D.D.C. 1976) which requires the promulgation of pretreatment standards for this industry category no later than May 15, 1977. This order also requires that such regulations become effective immediately upon publication.

It has not been practical to develop and republish regulations for this category in proposed form and to provide a 30-day comment period within the time constraints imposed by the court order referred to above. Accordingly, the Agency has determined pursuant to 5 U.S.C. 553(b) that notice and comment on the interim final regulations prior to promulgation would be impractical and contrary to the public interest. Good cause is also found for these regulations to become effective immediately upon publication.

Section 301 of the Act anticipates that pretreatment standards for existing sources would be established and compliance would be required before July 1, 1977, while section 307(b) specifies "a time for compliance not to exceed three years from the date of promulgation" of the standard. In view of this conflict of statutory language and the fact that the pretreatment standards are only now being promulgated, the Agency believes that the compliance deadline as set forth in section 307(b) should apply. The time for compliance with the categorical pretreatment standards will be within the shortest reasonable time but not later than three years from the effective date. However, this does not preclude a Regional Administrator or local or State authority from establishing a more expeditious compliance date on an individual basis where it is appropriate. Compliance with the prohibited discharge standards is required immediately upon the effective date of these regulations since these standards are essentially the same as 40 CFR 128.131 and since the deadline for compliance with 40 CFR 128.131 has passed.

Opportunity For Public Comment

Interested persons are encouraged to submit written comments. Comments should be submitted in triplicate to the Environmental Protection Agency, 401 M St. SW., Washington, D.C. 20460, Attention: Distribution Officer, WH-552. Comments on all aspects of the regulation are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which are available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data suggest amendment or modification of the regulation. In the event comments address the approach taken by the Agency in establishing pretreatment standards, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of section 307(b) of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2922 (EPA Library), Waterside Mall, 401 M Street SW., Washington, D.C. 20460. A copy of the technical study and economic study referred to above, and certain supplementary materials will be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received within sixty days after date of publication will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Small Business Administration Loans

Section 8 of the FWPCA authorizes the Small Business Administration, through its economic disaster loan program, to make loans to assist any small business concerns in effecting additions to or alterations in their equipment, facilities, or methods of operation so as to meet water pollution control requirements under the FWPCA, if the concern is likely to suffer a substantial economic injury without such assistance.

For further details on this Federal loan program write to EPA, Office of Analysis and Evaluation, WH-586, 401 M St. SW., Washington, D.C. 20460.

In consideration of the foregoing, 40 CFR Part 415 is hereby amended as set forth below.

Dated: July 8, 1977.

Douglas M. Costle,
Administrator.

Appendix A.—Technical Summary and Basis for Regulations

This Appendix summarizes the basis of interim final pretreatment standards for existing sources.

(1) *General methodology.* The pretreatment standards set forth herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate standards are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate standards for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of the source, flow and volume of water used in the process employed, the sources of waste and waste waters in the operation and the constituents of all waste water. The compatibility of each raw waste characteristic with municipal treatment works was then considered. The constituents of the waste waters which should be subject to effluent limitations were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which is existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations, and reliability of each treatment and control technology were also identified. In addition, the nonwater quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise, and radiations was identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology reflected the application of the appropriate pretreatment technologies. In identifying such technologies, various factors were considered. These included the total cost of application of technology, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, nonwater quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

(2) Summary of conclusions with respect to sections of the inorganic chemicals manufacturing point source category.

(i) *Categorization.* The inorganic chemicals industry is divided into subcategories based on the specific chemicals produced. Various other means of subcategorization were investigated. Factors such as raw waste loads, water requirements, and manufacturing processes do not establish a sound basis for subcategorization because the raw materials used and production processes employed are specific for each chemical.

The subcategories for which pretreatment standards were considered were those for which regulations based on best practicable control technology currently available are already in effect. A survey was made of plants in these subcategories to identify plants with discharges to municipal systems. Plants selected for study were those which have a publicly owned treatment works connection. As the study developed, it was found that plants in several of the subcategories being studied had no known discharge of wastes to a POTW from the specific product of concern, despite the existence of sewer connections. However, regulations are established for these subcategories because the likelihood that these plants will become POTW dischargers is high. Regulations were not established for five of the subcategories studied because their wastes are compatible with a POTW.

(ii) Origin and characteristics of process waste water pollutants generated by the manufacture of inorganic products.

(A) *Aluminum chloride.* Anhydrous aluminum chloride is manufactured by the reaction of gaseous chlorine with molten aluminum metal. Chlorine is introduced below the surface of the molten aluminum. The aluminum chloride sublimes and is collected by condensation.

No water is used in the process except in cases where a wet scrubber is used to eliminate the discharge of unreacted chlorine gas to the atmosphere. The regulation based on best practicable control technology currently available (BPT) for direct dischargers allows no discharge of process waste water pollutants. Waste water from the process comes from wet scrubbers, plant washdown and minor leaks and spills and is highly acidic. Scrap aluminum is frequently used as a raw material and scrubber water can be expected to resemble that generated by the secondary aluminum industry demagging operation. In the demagging operation chlorine is introduced below the surface of the molten aluminum to remove impurities. Although the two processes differ in detail they are similar enough so that the data from the demagging scrubbers is indicative of the pollutants and their proportions that can be expected from the aluminum chloride scrubbers. From these indications zinc is the pollutant of concern. However, from the data available it was the judgment of the Agency that national pretreatment limits on zinc do not appear to be warranted at this time. The available data indicate that the amounts and concentrations being discharged are sufficiently low that no interference with the POTW or significant pass-through problems are anticipated. However, regulation may be justified in individual cases. The Agency is consequently issuing guidance for local regulation of the introduction of zinc by plants in this category. In view of demonstrated health hazards and effects on POTW operations a zinc limitation of 2.5 mg/l (monthly average) and 5 mg/l (daily maximum) is recommended as guidance for the purpose of assisting local authorities in carrying out programs of this type. A pH range was established for this subcategory for the purpose of limiting the concentrations of dissolved aluminum because it is found in very high concentrations in the wastes and is found to interfere with POTW operations and pose pass-through problems.

(B) *Aluminum sulfate.* Aluminum sulfate is produced by the reaction of bauxite ore with concentrated sulfuric acid. Ground ore and acid are reacted in a digester, yielding aluminum sulfate in solution plus muds and insoluble waste materials. These waste products are removed during sedimentation and filtration. The filtered product liquor is either shipped as liquid aluminum sulfate or evaporated to recover a solid product. Waste muds may be ponded to settle the solids and the clear water may be recycled. Generally, the sources of process water are spent liquor from settling ponds, wash water from residue washing, and water from equipment and plant washdown. Each of these streams contains residual sulfuric acid, but the two latter streams are much diluted versions of the former. The washdown water may contain minor spills and leaks. Aluminum is not regulated because in the quantities expected there is no harm to the POTW or to the environment. Indicated flows are up to 105,000 gallons per day. The BPT regulation for direct dischargers allows no discharge of process waste water pollutants. A pretreatment limitation is established for zinc because it is present in significant quantities in the wastes from this subcategory, has known harmful effects, is found to interfere with operation of a POTW and poses pass-through problems.

(C) *Calcium carbide.* Calcium carbide is prepared by the reaction of calcium oxide with carbon in a high temperature furnace. The product is then cooled, crushed, screened, packaged and shipped. The only wastes from this process are airborne dusts from the furnace coke dryer, from screening and from the packing station. All collected dusts may be returned to the furnace. The only source of process waste water is wet-scrubber discharge, having a moderate total suspended solids (TSS) concentration. The BPT regulation for direct dischargers is no discharge of process waste water pollutants. Because the pollutants are judged to be compatible with POTW operations no pretreatment regulation is established for this subcategory at this time.

(D) *Calcium chloride.* Calcium chloride has classically been produced by extraction as a joint product from natural salt brines, and as a by-product of soda ash (sodium carbonate) via the solvay process. Other, less complex processes, such as reaction of limestone and hydrochloric acid are used to produce smaller quantities of the salt. The only sources of process water discharge are concentrated brine wastes, equipment washdown, and wet scrubbers. These wastes characteristically have a low pH and high total dissolved solids (TDS) concentrations. Because no economical treatment technology is available and because wastes from this process are judged to be compatible with POTW operation no pretreatment regulation is established for this subcategory at this time.

(E) *Sodium bicarbonate.* Sodium bicarbonate is made by reacting sodium carbonate with water and carbon dioxide under pressure. The bicarbonate precipitates from solution and is centrifuged or filtered, washed, dried, and packaged. Treated process waste water may be recycled after concentration with respect to sodium carbonate. The sources of waste water normally include recycle liquor, filter backwash, noncontact cooling water, washdowns, and compressor blowdowns. High TDS and TSS concentrations are found in these wastes. Large leaks and spills are not common to the industry since the materials used in the process are neither highly acidic nor highly basic, and the corrosion of pipes or fittings is not a problem. The BPT regulation for direct dischargers allows no discharge of process waste water pollutants. Because economical treatment technology other than total recycle is not available at this time and the pollutants are judged to be compatible with POTW operation, no pretreatment regulation is established for this subcategory.

(F) *Potassium dichromate.* Most potassium dichromate manufactured in the U.S. is made by reacting a sodium dichromate dihydrate solution with potassium chloride. The potassium dichromate is crystallized from solution resulting in a relatively pure product which requires only removal of water prior to sizing and packaging. The process water may be recycled back to the initial reaction tank. The BPT regulation for direct dischargers allows no discharge of process waste water pollutants. Pretreatment limitations are established for hexavalent chromium and total chromium because they are present in significant quantities in wastes from this subcategory, have known harmful effects and pose pass-through problems.

(G) *Copper sulfate.* Copper sulfate may be produced from a pure copper raw material or from an impure copper source.

When a pure raw material is used, copper, sulfuric acid, water, and air are introduced into a stream-heated oxidizing tower. The resulting copper sulfate solution is sent to a sedimentation basin and then to a crystallizing tank. The concentrated crystals are centrifuged, separated and dried. All waste streams are recycled to the process.

In the by-product recovery process, a waste stream from a copper refinery is fed to an oxidizer tank where it is reacted with copper shot, steam, and air. The resulting solution is concentrated and filtered. The filtrate is crystallized, centrifuged, and screened. Product copper sulfate is dried and packaged. Process waste waters consist of spent mother liquors and wash down waters. Indicated flows in this subcategory are up to 9000 gallons per day. Pretreatment limitations are established for copper and nickel because they are present in significant quantities in the wastes from this subcategory, have known harmful effects, are found to interfere with POTW operation and pose pass-through problems.

(H) *Ferric chloride.* Ferric chloride is produced from waste pickle liquor. The pickle liquor is preheated and reacted with iron, chlorine and sometimes hydrochloric acid. The solution is filtered and sold in solution or evaporated to dryness to recover a solid product. Wastes consist of filter sludges and washdown and pump seal waters containing grease and various iron compounds. Pump seal leaks are common and can be significant, as process material (pickle liquor and contaminants) will be lost. Wastes are acidic. The BPT regulation for direct discharges allows no discharge of process waste water pollutants. Indicated flows are up to 13,500 gallons per day. Pretreatment limitations are established for hexavalent chromium, total chromium, copper, nickel, and zinc because they are present in significant quantities in wastes from this subcategory, have known harmful effects, are found to interfere with POTW operation and pose pass-through problems.

(I) *Lead monoxide.* Lead monoxide is produced by the thermal oxidation of lead. There are no process waste water streams generated by lead monoxide production. The only sources of waste water from lead monoxide production are plant washdown and compressor blowdown, and dust control. The wastes from this process contain lead monoxide and a small amount of oil and grease in the compressor blowdown. The BPT regulation for direct discharges allows no discharge of process waste water pollutants. A pretreatment limitation is established for lead because it is present in significant quantities in the wastes from this subcategory, has known harmful effects, is found to interfere with operation of a POTW and poses pass-through problems.

(J) *Nickel sulfate.* Nickel sulfate is produced from pure nickel or nickel oxide and from impure nickel-containing materials.

When pure nickel is used as the raw material, the metal or oxide is digested in sulfuric acid. The solution is then filtered and sold or further processed to yield a solid product. Virtually no process wastes are generated by this process.

When impure raw materials are used, the sulfuric acid reaction solution must be treated with oxidizers to remove impurities. After filtration the product is marketed or converted into a solid product. Raw wastes consist of copper, nickel, suspended solids, and dissolved solids present in the impure nickel raw material. Waste streams result from the use of wet scrubbers, from barometric condensers and from treatment of the raw materials to remove impurities. Indicated flows are less than 1,500 gallons per day. Pretreatment limitations for nickel and copper are established because they are present in significant quantities in the wastes from this subcategory, have known harmful effects, are found to interfere with POTW operations and pose pass-through problems.

(K) *Nitrogen and oxygen.* Nitrogen and oxygen are manufactured by the distillation of liquefied air. Air is compressed, cooled and then separated into nitrogen and oxygen by distillation. The primary process wastes are oil and grease contained in compressor condensates. The highest flows found were 7,000 gallons per day. Oil and grease in the quantities discharged from this process are judged to be compatible with POTW operations. Because of this, no pretreatment regulation is established for this subcategory at this time.

(L) *Potassium iodide.* Potassium iodide is produced by the reaction of potassium hydroxide and iodine. The waterborne wastes are product and raw material losses. The BPT regulation for direct dischargers allows no discharge of process waste water pollutants. Because no economical treatment technology is available and the wastes are not expected to interfere with POTW operations or harm the environment, no pretreatment regulation for this subcategory is established at this time.

(M) *Silver nitrate.* Silver nitrate is produced by dissolving silver in nitric acid. The solution is evaporated yielding a concentrated mother liquor which is sent to a crystallizer. The crystals are centrifuged washed, dried, and packaged. Waste water streams result from the use of wet scrubbers, from product washing and purification operations, from the evaporators, and from floor and equipment washings. The waste streams are sent to a recovery system to reclaim the silver. However, even after recovery enough silver may still remain in the waste stream to make it a parameter of concern. A pretreatment limitation is established for silver because it is present in significant quantities in the wastes from this subcategory, has known harmful effects, is found to interfere with operation of a POTW and poses pass-through problems.

(N) *Sodium fluoride.* Sodium fluoride may be made by two similar processes. Anhydrous hydrofluoric acid may be reacted with sodium carbonate. The solution is then sent to a vacuum filter to recover product sodium fluoride. Process wastes from this process consist of filtrate, mother liquors, wash down waters and scrubber solutions which are recycled. The mother liquor and wash down waters generally contain sodium carbonate and waste sodium fluoride.

Sodium fluoride may also be produced by the reaction of sodium silicofluoride with sodium hydroxide. The solution is fed to a multi-stage separator, wherein sodium fluoride separates from the sodium silicate solution. The product sodium fluoride is washed, dried, and packaged. Process waste water from this process consists of waste liquor containing sodium silicate and sodium fluoride, wet scrubber blowdown and wash waters. The BPT regulation for direct dischargers allows no discharge of process waste water pollutants. Fluoride concentration in raw waste load is very high, up to several thousand mg/l. A pretreatment limitation is established for fluoride because it is present in significant quantities in the wastes from this subcategory, has known harmful effects, is found to interfere with POTW operations and poses pass-through problems.

(iii) *Treatment and control technology.* Parameters selected for control by these regulations are zinc, copper, nickel, hexavalent chromium, total chromium, lead, silver, and fluoride. These pollutants were found to interfere with POTW operations or pose pass-through problems. The known toxic effects of these pollutants were taken into account in assessing the significance of pass-through problems and the potential for interference with POTW biological systems. Furthermore, the extent to which these pollutants are partially removed at the POTW and accumulate in the municipal sludge was an important factor in the decision to regulate these parameters. In a POTW with secondary treatment, conservative estimates indicate that at least 45 percent of the zinc, 38 percent of the chromium, 55 percent of the copper, 31 percent of the lead, and 60 percent of the silver introduced into the POTW will be incidentally removed and will be deposited in the municipal sludge. The data also showed that 0 to 61 percent of the nickel will be incidentally removed. The accumulation of these metals in the sludge can seriously limit the disposal options open to a municipality and can prevent use of the sludge for beneficial purposes such as agricultural uses. Based on a consideration of the extent to which these pollutants pass through a POTW, the toxicity of these pollutants, the effects on the biota in the POTW, and the potential for accumulation in the municipal sludge, it was decided that the pollutants mentioned should be controlled by industrial users in this category to the extent feasible, based on an assessment of appropriate pretreatment technologies.

On February 2, 1977, the Agency proposed a general pretreatment regulation (40 CFR Part 403) which included for public comment four alternative pretreatment strategies. The four strategies included consideration of pollutant removals achieved by POTW both at the national level in establishing Federal pretreatment standards, and on a case-by-case basis at the local level (i.e., POTW variances or local credits). For the reasons discussed above, and since the Agency does not wish to pre-judge the selection of a national pretreatment strategy, these standards for the inorganic chemicals category are based on the pollutant reductions technically and economically feasible, and do not incorporate pollutant removals achieved by the POTW. If the way in which pollutant removals are taken into account in the overall pretreatment strategy is inconsistent with these standards for the inorganic chemicals category, then these standards will be revised to be consistent.

Parameters for which limitations are not established include TSS, TDS, carbonate, calcium, chloride, potassium, sodium, sulfate and oil, and grease. The TSS concentrations found are expected to be compatible with municipal systems. TDS, carbonate, calcium, chloride, potassium, sodium, and sulfate are not regulated because they are not expected to harm operations of a municipal system and no economically practicable pretreatment technology is available at this time. Oil and grease are not regulated because the small quantities in the wastes from lead monoxide and oxygen and nitrogen production will be effectively treated by a POTW. Aluminum and iron are not regulated because in the quantities expected there is no harm to the POTW or to the environment. However, for these two metals large discharges in wastes would be detrimental to POTW operations or the environment. For this reason a POTW should consider the need for establishing a limit for aluminum and/or iron if large discharges occur.

Treatment technology for metals and fluoride removal is precipitation followed by removal of the precipitate by clarifier, settling and/or filtration. Lime can generally be used as the precipitating agent although more positive results for lead, zinc and nickel will be obtained by precipitation with sodium carbonate. Hexavalent chromium will require reduction by sulfur dioxide to convert it to trivalent chromium. The trivalent chromium is readily removed by lime precipitation.

Most of the wastes are acidic and will require neutralization to meet the minimum requirement of pH 5.0. Neutralization with lime, sodium carbonate or caustic will achieve the required result and at the same time precipitate metals.

The above discussions form the basis for pretreatment standards. However this does not preclude the selection of other waste water treatment alternatives which provide equivalent or better levels of treatment. Some alternate treatment technologies that may be more cost effective for some plants are evaporation ponds, dry collection of wastes, recycle of effluents, leak and spill control, flow reduction and process changes.

Solid waste control by industrial users of POTW must be considered. The best pretreatment technologies as known today require disposal of the pollutants removed from waste waters in the form of solid wastes and liquid concentrates. Some constituents may be hazardous and may require special consideration. In order to insure long-term protection of the environment from these hazardous or harmful constituents, special consideration of disposal sites must be made. All landfill sites where such hazardous wastes are disposed should be selected so as to prevent horizontal and vertical migration of these contaminants to ground or surface waters. In cases where geologic conditions may not reasonably ensure this, adequate legal and mechanical precautions (e.g., impervious liners) should be taken to ensure long-term protection to the environment from hazardous materials. Where appropriate, the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of legal jurisdiction.

(iv) *Cost estimates for control of waste water pollutants.* Cost information was obtained directly from industry, from engineering firms, equipment suppliers, government sources, and available literature whenever possible. Costs are based on actual industrial installations or engineering estimates for projected facilities as supplied by contributing companies. In the absense of such information, cost estimates have been developed from either plant-supplied costs for similar waste treatment installation at plants making other inorganic chemicals or general cost estimates for treatment technology.

(v) *Energy requirements and nonwater quality environment impacts.* The energy costs related to the implementation of these regulations are generally limited to electricity required for liquid transfer pumps, agitator motors, and skimmers. Electrical energy costs will range from one to seven percent of total annual treatment costs or from 0 to 0.2 percent of total product cost.

The major nonwater quality consideration which may be associated with the recommended pretreatment technologies is the generation of metals bearing solid wastes from pH adjustment and settling facilities. In some cases these wastes can be reprocessed to recover metals but in most cases these wastes will be landfilled.

No significant increase in noise pollution, radiation, air pollution or thermal pollution will result from the implementation of pretreatment technology.

(vi) *Economic impact analysis.* This section summarizes the economic and inflationary impacts of the pretreatment standards for the Inorganic Chemicals Manufacturing Point Source Category. No significant economic impact is expected for any of the nine subcategories. This summary will present the estimated investment and annual costs required for complying with the pretreatment standards, and the estimated price increase due to these standards.

Executive Order 11821 (November 27, 1974) requires that major proposals for legislation and promulgation of regulations and rules by agencies of the executive branch be accompanied by a statement certifying that the inflationary impact of the proposal

has been evaluated. The Administrator has directed that all regulatory actions which are likely to exceed any of the following four criteria will require certification:

1. Additional national annualized costs of compliance, including capital charges (interest and depreciation), will total $100 million within any calendar year by the attainment date, if applicable, or within five years of implementation.

2. Total additional cost of production of any major product is more than 5 percent of the selling price of the product.

3. Net national energy consumption will be increased by the equivalent of 25,000 barrels of oil a day (equal to 50 x 10^{12} BTU per year or 5 x 10^9 kilowatt-hours per year).

For the nine subcategories, an attempt was made to identify all known dischargers into POTW (indirect dischargers). When that was not possible, an estimate of that number was made from the number of plants currently unidentified as to their discharge status. Table A below presents the number of known and estimated indirect dischargers.

TABLE A.—*Number of dischargers into* POTW's

Subcategory	Known	Additional [1]	Total
Aluminum chloride	0	1	1
Aluminum sulfate	0	6	6
Copper sulfate	0	1	1
Ferric chloride	2	1	3
Lead monoxide	0	1	1
Nickel sulfate	3	1	4
Potassium dichromate	0	0	0
Silver nitrate	0	1	1
Sodium fluoride	0	0	0
Total	5	12	17

[1] Estimated number.

Source: "Economic Analysis of Pretreatment Standards for the Inorganic Chemicals Manufacturing Point Source Category," Arthur D. Little, Inc. March 1977. "Supplement for Pretreatment to the Development Documents for the Inorganic Chemicals Manufacturing Point Source Category," EPA, February 1977.

For each subcategory, costs were calculated for two cases: Known POTW dischargers and the total (known and estimated) number of POTW dischargers. Table B presents the total investment costs and Table C presents the annual costs and the expected price increases.

TABLE B

Subcategory	Total investment required (dollars) [1]	
	Known	Total [2]
Aluminum chloride	0	30,500
Aluminum sulfate	0	426,000
Copper sulfate	0	44,500
Ferric chloride	59,800	89,700
Lead monoxide	0	111,800
Nickel sulfate	38,400	51,200
Potassium dichromate	0	0
Silver nitrate	0	39,800
Sodium fluoride	0	0
Total	98,200	793,500

[1] 1975 dollars.
[2] Total figures include costs for both known and estimated plants.

Source: "Economic Analysis of Pretreatment Standards for the Inorganic Chemicals Manufacturing Point Source Category." Arthur D. Little, Inc. March 1977.

TABLE C

Subcategory	Total annual cost pretreatment (dollars) [1]		Average expected price increase (percent) [2]
	Known	Total [3]	
Aluminum chloride	0	33,870	1.6
Aluminum sulfate	0	702,498	1.9
Copper sulfate	0	24,450	.2
Ferric chloride	50,600	75,900	1.3
Lead monoxide	0	45,510	.4
Nickel sulfate	22,110	29,480	.2
Potassium dichromate	0	0	0
Silver nitrate	0	22,580	.007
Sodium fluoride	0	0	
Total	72,710	934,288	

[1] 1975 dollars. Annual costs include capital charges such as depreciation.
[2] Annual cost as a percentage of 1975 selling price (per ton based on model plant cost estimates).
[3] Total figures include costs for both known and estimated plants.

Source: "Economic Analysis of Pretreatment Standards for the Inorganic Chemicals Manufacturing Point Source Category," Arthur D. Little, Inc. March 1977.

As can be seen above, total national annualized costs of compliance for the Pretreatment Standards are well below $100 million per year. Energy consumption will be increased by a nominal amount. The projected increase in demand or decrease in supply for any of the above materials is nominal. Thus an inflationary impact statement is not necessary.

The Agency has considered the economic impact of the internal and external costs of the effluent limitation guidelines. Internal costs (see Tables B and C above) are defined as investment and annual costs, where annual cost is composed of operating costs, maintenance costs, the cost of capital, and depreciation. External costs include the assessments of the economic impact of the internal costs in terms of price increases, production curtailments, plant closures, resultant unemployment, community and regional impacts, international trade, and industry growth.

The impact of these regulations is expected to be minimal for the inorganic chemicals industry. In most cases, pretreatment costs can be passed on to the consumer through price increases ranging from 0 percent to 1.9 percent of 1975 selling price on a per ton basis. No production curtailment or plant closures are projected as a result of these pretreatment standards. Based on this analysis, the effects on employment, industry growth, and international trade are expected to be minimal.

APPENDIX B—SUMMARY OF PUBLIC PARTICIPATION

Prior to this publication, copies of the draft development document ("Draft Supplement for Pretreatment to the Development Documents for the Inorganic Chemicals Manufacturing Point Source Category") were sent to industry trade groups, Federal agencies, and State, local, and territorial pollution control agencies, and ESWQIAC (the Effluent Standards and Water Quality Information Advisory Committee established under section 515 of the FWPCA). These persons were given an opportunity to participate in the development of pretreatment standards by submitting written comments. In addition, a public meeting was held on March 18, 1977, at EPA headquarters in Washington, D.C., at which interested person were invited to express their views publicly.

The following organizations responded with comments: Allied Chemical Company; American Cyanamid Company; United States Steel Corporation; New York State Department of Environmental Conservation; Georgia Department of Natural Resources; The Metropolitan Sanitary District of Greater Chicago; The Indiana State Board of Health; and the Maryland Department of Health and Mental Hygiene.

The major issues raised by commenters during the development of the pretreatment standards and the resolution of these issues are as follows:

(1) One commenter suggested that the pretreatment standards be delayed until the policy issues involved with the four options in the Proposed Regulations on Pretreatment Standards for Existing and New Sources of Pollution (FEDERAL REGISTER, 42 FR 6476, Wednesday, February 2, 1977) are settled.

The Agency is subject to an order of the United States District Court for the District of Columbia entered in "Natural Resources Defense Council (NRDC) v. EPA," 8 E.R.C. 2120 (D.D.C. 1976) which requires the promulgation of pretreatment standards for this industry category no later than May 15, 1977. The industry-specific pretreatment regulations promulgated today are based primarily upon technological and economic factors while the general pretreatment regulations involve the methodology by which the industry-specific regulations will be applied to individual plants, and the relationship between the Federal and State governments.

When the new general pretreatment regulations are promulgated, these standards will be reviewed for consistency with the new general policies.

(2) One commenter objected to the language in the document which states that allowable pollutants discharged into POTW should be "similar in all material respects to municipal sewage which a 'normal type' POTW is designed to treat."

The Agency agrees that this statement is unclear and subject to misinterpretation. The statement has been deleted from the development document. The statement now reads, "Pretreatment standards should allow material to be discharged into a POTW when such materials are wastes which a normal POTW has been designed to treat."

(3) One commenter objects to the inclusion in the Development Document of charts and tables expressing minimum theoretical concentrations of metals. The concern is that these theoretical concentrations may be used for effluent and pretreatment standards.

Solubility tables and figures are included in the development document to provide the user of the document with background material for comparative purposes. The proposed limitations are based on demonstrated effluent levels, and are higher than the minimum theoretical solubilities.

(4) One commenter suggested that for subcategories where promulgated effluent guidelines require zero discharge of process contaminants by July 1, 1977, no discharge be allowed to a POTW. It was also suggested that all waste discharges to POTW be prohibited unless they benefit from treatment in a POTW, or are beneficial to a POTW.

The Agency, in developing pretreatment standards, is charged with the responsibility of limiting the discharge of pollutants into a POTW which would interfere with, pass through, or otherwise be incompatible with the POTW. It is beyond the scope of these regulations to require no discharge to a POTW unless such a requirement is necessary in light of these criteria. An additional consideration is that dischargers in urban locations may be unable to discharge except into a POTW.

(5) One commenter was concerned about the lack of control over TDS (total dissolved solids), stating that variations in TDS concentrations may adversely affect biological waste treatment processes.

The Agency recognizes the potential need for limiting TDS discharges. However, technology for TDS removal is not economically achievable at this time, and in most cases TDS removal will not be necessary to protect either the treatment plant or water quality standards. More stringent standards may be set locally, particularly if there is any adverse effect on the treatment plant or the receiving water.

(6) One commenter suggested that a range of limits be promulgated based on the size of the receiving POTW.

The proposed limits represent the maximum allowable concentrations, regardless of the size of the receiving POTW. The local municipalities have the option of imposing more stringent limitations if necessary.

(7) One commenter questions the use of estimated discharge characteristics, and data from one plant to set pretreatment standards for the lead monoxide subcategory.

The source of lead waste from lead monoxide operations is dust loss and plant washdown. This waste is eliminated in three of the plants investigated by dry collection methods; in others it is not. Lead is limited because it is present in significant quantities in the wastes of some plants, it has known harmful effects, is found to interfere with POTW operations and poses pass-through problems.

(8) One comment objects to the statement (with regard to aluminum sulfate production) that "* * * all process wastes can be recycled."

Zero discharge technology is in operation at several aluminum sulfate plants. The Agency realizes, however, that some raw materials contain inert materials that cannot be recycled. The pretreatment models proposed in the development document take this into account. The sentence has been changed to read "all process wastes are recycled at some plants."

(9) Several commenters pointed out several errors or inconsistencies in the development document. These have been corrected.

Part 415, Chapter I, Subchapter N, Title 40 of the Code of Federal Regulations is amended as follows:

§ 415.10 [Amended]

Section 415.10 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart A is amended by adding § 415.14 as follows:

§ 415.14 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307 (b) of the Act for a source within the aluminum chloride production subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the aluminum chloride production subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standard establishes the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

Pollutant or pollutant property:	*Pretreatment standard*
pH	Within the range 5.0 to 10.0.

§ 415.20 [Amended]

Section 415.20 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart B is amended by adding § 415.24 as follows:

§ 415.24 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under Section 307(b) of the Act for a source within the aluminum sulfate production subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the aluminum sulfate production subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works.

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standard establishes the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

[Milligrams per liter]

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Zinc	5.0	2.5

§ 415.120 [Amended]

Section 415.120 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart L is amended by adding § 415.124 as follows:

§ 415.124 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307 (b) of the Act for a source within the potassium dichromate production subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the potassium dichromate production subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standards establishes the quality or quantity of pollutants or pollutant properties controlled by this section which

may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

[Milligrams per liter]

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Hexavalent chromium	0.25	0.09
Total chromium	3.0	1.0

§ 415.360 [Amended]

Section 415.360 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart AJ is amended by adding § 415.364 as follows:

§ 415.364 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307 (b) of the Act for a source within the copper sulfate production subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the copper sulfate production subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standard establishes the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

[Milligrams per liter]

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Copper	1.0	0.5
Nickel	2.0	1.0

§ 415.380 [Amended]

Section 415.380 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart AL is amended by adding section 415.384 as follows:

§ 415.384 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307 (b) of the Act for a source within the ferric chloride production subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the ferric chloride production subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standard establishes the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

[Milligrams per liter]

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Total Chromium	3.0	1.0
Hexavalent Chromium	.25	.09
Copper	1.0	.5
Nickel	2.0	1.0
Zinc	5.0	2.5

§ 415.440 [Amended]

Section 415.440 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart AR is amended by adding § 415.444 as follows:

§ 415.444 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307 (b) of the Act for a source within the lead monoxide production subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the lead monoxide production subcategory or set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standard establishes the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

[Milligrams per liter]

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Lead	2.0	1.0

§ 415.470 [Amended]

Section 415.470 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart AU is amended by adding § 415.474 as follows:

§ 415.474 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307 (b) of the Act for a source within the nickel sulfate production subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the nickel sulfate production subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standard establishes the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

[Milligrams per liter]

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Nickel	2.0	1.0
Copper	1.0	.5

§ 415.530 [Amended]

Section 415.530 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart BA is amended by adding § 415.534 as follows:

§ 415.534 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under Section 307 (b) of the Act for a source within the silver nitrate production subcategory, the provisions of Part 128 shall not apply. The pretreatment standards for an existing source within the silver nitrate production subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standard establishes the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

[Milligrams per liter]

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Silver	1.0	0.5

§ 415.550 [Amended]

Section 415.550 is amended by inserting the phrase "and to the introduction of pollutants into treatment works which are publicly owned" after the word "discharges."

Subpart BC is amended by adding § 415.554 as follows:

§ 415.554 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307(b) of the Act for a source within the sodium fluoride production subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the sodium fluoride production subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which would create a fire or explosion hazard in the publicly owned treatement works.

(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standard establishes the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

[Milligrams per liter]

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Fluoride	50	25

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